

CLAIMS

1. A method for deflecting a projectile from an initial trajectory, said projectile having a first surface area and a second surface area and moving through a gaseous atmosphere with a surrounding plasma sheath, said method comprising the step of:

directing electromagnetic radiation toward the projectile, wherein said electromagnetic radiation has a frequency which is absorbed by the plasma sheath to a significant degree but is not absorbed by the gaseous atmosphere.

2. The method of claim 1 wherein the electromagnetic radiation is directed toward the first surface area of the projectile in preference to the second surface area of the projectile.

3. The method of claim 2 wherein the first surface area and the second surface area are in opposed relation to each other.

4. The method for claim 2 wherein the first surface area is an upper surface area and the second surface area is a lower surface area.

5. The method of claim 2 wherein the first surface area is a front surface area and the second surface area is a side surface area.

6. The method of claim 3 wherein the first surface area is a lower surface area and the second surface area is an upper surface area.

7. The method of claim 2 wherein the first surface is a front surface and the second surface is a side surface.

8. The method of claim 1 wherein the electromagnetic radiation is light.

9. The method of claim 7 wherein the electromagnetic radiation has a source which is a laser.

10. The method of claim 1 wherein the electromagnetic radiation causes the plasma sheath to be heated.

11 ~~12~~. The method of claim 10 wherein the temperature differential results in a pressure differential between said first surface area and said second surface area.

12 ~~13~~. The method of claim ¹¹~~12~~ wherein there is a traverse momentum applied to the projectile.

13 ~~14~~. The method of claim ¹³~~14~~ wherein the transverse impulse results in a deflecting force.

14 ~~15~~. The method of claim 1 wherein the projectile is a self-propelled rocket.

15 ~~16~~. The method of claim 1 wherein the projectile is an externally propelled shell.

16 ~~17~~. The method of claim 1 wherein the projectile is an air delivered bomb.

17 ~~18~~. The method of claim 1 wherein the electromagnetic radiation has a wave length of from 0.35 microns to 0.70 microns.

18 ~~19~~. The method of claim 1 wherein the projectile has a velocity of from about 300 m/sec. to about 1500 msec.

19 ~~20~~. A method for deflecting a projectile from an initial trajectory, said projectile having a first surface area and a second surface area and moving through a gaseous atmosphere with a surrounding plasma sheath, said method comprising the step of:

directing electromagnetic radiation toward the projectile, wherein said

electromagnetic radiation has a frequency so that the electromagnetic radiation is absorbed to a significant degree by the plasma sheath but is not absorbed to a significant degree by the gaseous atmosphere,

wherein the electromagnetic radiation is directed toward the first surface area of the projectile in preference to the second surface area of the projectile.

20 21. A method for deflecting a projectile from an initial trajectory, said projectile having a first surface area and a second surface area and moving through a gaseous atmosphere with a surrounding plasma sheath, said method comprising the step of:

directing electromagnetic radiation toward the projectile, wherein said electromagnetic radiation has a frequency which is absorbed by the plasma sheath but is not substantially absorbed by the gaseous atmosphere ,

wherein the electromagnetic radiation causes the plasma sheath to be heated, and the plasma sheath has a first section adjacent the first surface area of the projectile and a second section adjacent the second surface area of the projectile and there is a temperature differential between said first section and said second section of the plasma sheath.